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EFS ID: 60085  
Application ID: 10643638   
Title of Invention: BOILING TEMPERATURE DESIGN  
IN PUMPED MICROCHANNEL  
COOLING LOOPS  
First Named Inventor: Peng Zhou  
Domestic/Foreign Application: Domestic Application  
Filing Date: 2003-08-18  
Effective Receipt Date: 2004-04-29  
Submission Type: Information Disclosure  
Statement  
Filing Type:  
Confirmation number: 4432  
Attorney Docket Number: NONE

Total Fees Authorized:


Digital Certificate Holder: cn=Thomas B. Haverstock,ou=Registered Attorneys,ou=Patent and  
Trademark Office,ou=Department of Commerce,o=U.S. Government,c=US  
Certificate Message Digest: 9666598ec6105211f08b6f775cac132b0702198d

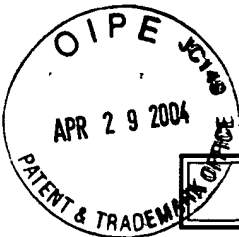


## TRANSMITTAL

Electronic Version v1.1

Stylesheet Version v1.1.0


| <b>Title of<br/>Invention</b>  | <b>BOILING TEMPERATURE DESIGN IN PUMPED MICROCHANNEL<br/>COOLING LOOPS</b> |                |                           |             |                |  |       |            |  |            |
|--|--|----------------|---------------------------|-------------|----------------|--|-------|------------|--|------------|
| <p>Application Number: 10/643638 </p> <p>Date: 2003-08-18</p> <p>First Named Applicant: Peng Zhou</p> <p>Confirmation Number: 4432</p> <p>Attorney Docket Number:</p>  |  |                |                           |             |                |  |       |            |  |            |
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| <table border="1"><thead><tr><th>Submitted by:</th><th>Elec. Sign.</th><th>Sign. Capacity</th></tr></thead><tbody><tr><td>Thomas B. Haverstock<br/>Registered Number: 32571</td><td>/tbh/</td><td>Attorney</td></tr></tbody></table>   |  |                | Submitted by:             | Elec. Sign. | Sign. Capacity | Thomas B. Haverstock<br>Registered Number: 32571 | /tbh/ | Attorney   |  |            |
| Submitted by:  | Elec. Sign.  | Sign. Capacity |                           |             |                |  |       |            |  |            |
| Thomas B. Haverstock<br>Registered Number: 32571   | /tbh/  | Attorney       |                           |             |                |  |       |            |  |            |
| <table><tr><td>Documents being submitted</td><td>Files</td></tr><tr><td>us-ids</td><td>COOL01500A-usidst.xml</td></tr><tr><td></td><td>us-ids.dtd</td></tr><tr><td></td><td>us-ids.xsl</td></tr></table>   |  |                | Documents being submitted | Files       | us-ids         | COOL01500A-usidst.xml                            |       | us-ids.dtd |  | us-ids.xsl |
| Documents being submitted  | Files  |                |                           |             |                |  |       |            |  |            |
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|  | us-ids.dtd   |                |                           |             |                |  |       |            |  |            |
|  | us-ids.xsl   |                |                           |             |                |  |       |            |  |            |
| <b>Comments</b>  |  |                |                           |             |                |  |       |            |  |            |



## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

| Title of<br>Invention  | BOILING TEMPERATURE DESIGN IN PUMPED<br>MICROCHANNEL COOLING LOOPS |            |            |                  |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|--|--|------------|------------|------------------|------|-------|----------|------|----------|------------|------|----------|------|-------|----------|--|---|---------|------------|--------------|--|--|--|--|---|---------|------------|-----------------|--|--|--|--|---|---------|------------|--------------|--|--|--|--|---|---------|------------|----------|--|--|--|--|---|---------|------------|---------|--|--|--|--|---|---------|------------|---------------|--|--|--|--|---|---------|------------|---------|--|--|--|--|---|---------|------------|--------------|--|--|--|--|---|---------|------------|----------------|--|--|--|--|----|---------|------------|------------------|--|--|--|
| <p>Application Number: 10/643638 </p> <p>Confirmation Number: 4432</p> <p>First Named Applicant: Peng Zhou</p> <p>Attorney Docket Number:</p> <p>Search string: ( 3654988 or 3817321 or 3823572 or 3923426<br/>or 3929154 or 4109707 or 4194559 or 4248295<br/>or 4312012 or 4450472 or 4485429 or 4516632<br/>or 4540115 or 4561040 or 4567505 or 4573067<br/>or 4664181 or 4758926 or 4866570 or 4868712<br/>or 4894709 or 4896719 or 4908112 or 4938280<br/>or 5009760 or 5016138 or 5057908 or 5058627<br/>or 5070040 or 5083194 or 5088005 or 5096388<br/>or 5099311 or 5099910 or 5125451 or 5131233<br/>or 5203401 or 5218515 or 5219278 or 5230564<br/>or 5232047 or 5239200 or 5263251 or 5274920<br/>or 5281026 or 5308429 or 5309319 or 5317805<br/>or 5325265 or 5336062 ).pn.</p> <p><b>US Patent Documents</b></p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td></td><td>1</td><td>3654988</td><td>1972-04-11</td><td>Clayton, III</td><td></td><td></td><td></td></tr><tr><td></td><td>2</td><td>3817321</td><td>1974-06-18</td><td>von Cube et al.</td><td></td><td></td><td></td></tr><tr><td></td><td>3</td><td>3823572</td><td>1974-07-16</td><td>Cochran, Jr.</td><td></td><td></td><td></td></tr><tr><td></td><td>4</td><td>3923426</td><td>1975-12-02</td><td>Theeuwes</td><td></td><td></td><td></td></tr><tr><td></td><td>5</td><td>3929154</td><td>1975-12-30</td><td>Goodwin</td><td></td><td></td><td></td></tr><tr><td></td><td>6</td><td>4109707</td><td>1978-08-29</td><td>Wilson et al.</td><td></td><td></td><td></td></tr><tr><td></td><td>7</td><td>4194559</td><td>1980-03-25</td><td>Eastman</td><td></td><td></td><td></td></tr><tr><td></td><td>8</td><td>4248295</td><td>1981-02-03</td><td>Ernst et al.</td><td></td><td></td><td></td></tr><tr><td></td><td>9</td><td>4312012</td><td>1982-01-19</td><td>Frieser et al.</td><td></td><td></td><td></td></tr><tr><td></td><td>10</td><td>4450472</td><td>1984-05-22</td><td>Tuckerman et al.</td><td></td><td></td><td></td></tr></tbody></table> |  |            |            |                  |      |       |          | init | Cite.No. | Patent No. | Date | Patentee | Kind | Class | Subclass |  | 1 | 3654988 | 1972-04-11 | Clayton, III |  |  |  |  | 2 | 3817321 | 1974-06-18 | von Cube et al. |  |  |  |  | 3 | 3823572 | 1974-07-16 | Cochran, Jr. |  |  |  |  | 4 | 3923426 | 1975-12-02 | Theeuwes |  |  |  |  | 5 | 3929154 | 1975-12-30 | Goodwin |  |  |  |  | 6 | 4109707 | 1978-08-29 | Wilson et al. |  |  |  |  | 7 | 4194559 | 1980-03-25 | Eastman |  |  |  |  | 8 | 4248295 | 1981-02-03 | Ernst et al. |  |  |  |  | 9 | 4312012 | 1982-01-19 | Frieser et al. |  |  |  |  | 10 | 4450472 | 1984-05-22 | Tuckerman et al. |  |  |  |
| init   | Cite.No.   | Patent No. | Date       | Patentee         | Kind | Class | Subclass |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 1  | 3654988    | 1972-04-11 | Clayton, III     |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 2  | 3817321    | 1974-06-18 | von Cube et al.  |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 3  | 3823572    | 1974-07-16 | Cochran, Jr.     |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 4  | 3923426    | 1975-12-02 | Theeuwes         |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 5  | 3929154    | 1975-12-30 | Goodwin          |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 6  | 4109707    | 1978-08-29 | Wilson et al.    |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 7  | 4194559    | 1980-03-25 | Eastman          |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 8  | 4248295    | 1981-02-03 | Ernst et al.     |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 9  | 4312012    | 1982-01-19 | Frieser et al.   |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |
|  | 10   | 4450472    | 1984-05-22 | Tuckerman et al. |      |       |          |      |          |            |      |          |      |       |          |  |   |         |            |              |  |  |  |  |   |         |            |                 |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |          |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |               |  |  |  |  |   |         |            |         |  |  |  |  |   |         |            |              |  |  |  |  |   |         |            |                |  |  |  |  |    |         |            |                  |  |  |  |

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|--|----|---------|------------|-------------------|
|  | 11 | 4485429 | 1984-11-27 | Mittal            |
|  | 12 | 4516632 | 1985-05-14 | Swift et al.      |
|  | 13 | 4540115 | 1985-09-10 | Hawrylo           |
|  | 14 | 4561040 | 1985-12-24 | Eastman et al.    |
|  | 15 | 4567505 | 1986-01-28 | Pease et al.      |
|  | 16 | 4573067 | 1986-02-25 | Tuckerman et al.  |
|  | 17 | 4664181 | 1987-05-12 | Sumberg           |
|  | 18 | 4758926 | 1988-07-19 | Herrell et al.    |
|  | 19 | 4866570 | 1989-09-12 | Porter            |
|  | 20 | 4868712 | 1989-09-19 | Woodman           |
|  | 21 | 4894709 | 1990-01-16 | Phillips et al.   |
|  | 22 | 4896719 | 1990-01-30 | O'Neill et al.    |
|  | 23 | 4908112 | 1990-03-13 | Pace              |
|  | 24 | 4938280 | 1990-07-03 | Clark             |
|  | 25 | 5009760 | 1991-04-23 | Zare et al.       |
|  | 26 | 5016138 | 1991-05-14 | Woodman           |
|  | 27 | 5057908 | 1991-10-15 | Weber             |
|  | 28 | 5058627 | 1991-10-22 | Brannen           |
|  | 29 | 5070040 | 1991-12-03 | Pankove           |
|  | 30 | 5083194 | 1992-01-21 | Bartilson         |
|  | 31 | 5088005 | 1992-02-11 | Ciaccio           |
|  | 32 | 5096388 | 1992-03-17 | Weinberg          |
|  | 33 | 5099311 | 1992-03-24 | Bonde et al.      |
|  | 34 | 5099910 | 1992-03-31 | Walpole et al.    |
|  | 35 | 5125451 | 1992-01-30 | Matthews          |
|  | 36 | 5131233 | 1992-07-21 | Cray et al.       |
|  | 37 | 5203401 | 1993-04-20 | Hamburgers et al. |
|  | 38 | 5218515 | 1993-06-08 | Bernhardt         |
|  | 39 | 5219278 | 1993-06-15 | Van Lintel        |
|  | 40 | 5230564 | 1993-07-27 | Bartilson et al.  |
|  | 41 | 5232047 | 1993-08-03 | Matthews          |
|  | 42 | 5239200 | 1993-08-24 | Messina et al.    |
|  | 43 | 5263251 | 1993-11-23 | Matthews          |
|  | 44 | 5274920 | 1994-01-04 | Mathews           |
|  | 45 | 5281026 | 1993-07-27 | Bartilson et al.  |
|  | 46 | 5308429 | 1994-05-03 | Bradley           |
|  |    |         |            |                   |

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|--|----|---------|------------|----------------|
|  | 47 | 5309319 | 1994-05-03 | Messina        |
|  | 48 | 5317805 | 1994-06-07 | Hoopman et al. |
|  | 49 | 5325265 | 1994-06-28 | Turlik et al.  |
|  | 50 | 5336062 | 1994-08-09 | Richter        |

Signature

|               |      |
|---------------|------|
| Examiner Name | Date |
|               |      |